

What is claimed:

1. An acoustic contact detecting device, comprising:

(a) a substrate having a top surface;

5 (b) an acoustic wave transducer for coupling with a first wave representative of a bulk wave being propagated through said substrate along an axis crossing said top surface;

(c) a planar wiring for supplying said acoustic wave transducer with electric power;

10 (d) a connecting device for connecting said acoustic wave transducer with the planar wiring;

(e) a diffractive acoustic wave mode coupler having a mode of converted wave having high energy on said top surface and functioning for coupling a second wave being propagated along an axis parallel to said top surface with said first wave; and

15 (f) a means for detecting a perturbation in the energy of said second wave.

2. A coordinate input device of touch-type comprising: a propagation medium having a top surface capable of propagating an acoustic wave; a bulk wave generation means for propagating a bulk wave in a crossing direction with
20 respect to said top surface of said propagation medium; a planar wiring for supplying this bulk wave generation means with electric power; a connecting device for providing an electrical connection between said bulk wave generation means and said planar wiring; an acoustic wave generation means for converting said bulk wave into an acoustic wave and propagating said acoustic wave on the
25 top surface of said propagation medium; and a detecting means for detecting a scatter in the surface of the acoustic wave from said acoustic wave generation means.

3. A device in accordance with claim 1 or 2, in which said acoustic wave transducer is composed of a piezoelectric vibrator.

4. A device in accordance with claim 1 or 2, in which said wiring is formed
5 by using conductive paste.

5. A device in accordance with either of claim 1, 2 or 4, in which said wiring is formed by way of transfer printing.

10 6. A device in accordance with claim 1 or 2, in which said wiring is formed on a back surface of the substrate.

7. A device in accordance with claim 1 or 2, in which said connecting device is made of conductive material having a step corresponding to a profile of said
15 acoustic wave transducer.

8. A device in accordance with claim 1 or 2, in which said acoustic wave transducer comprises a piezoelectric substrate and a piezoelectric vibrator having electrode sections disposed on both surfaces of said piezoelectric substrate, and
20 said planar wiring comprises a first wiring section capable of contacting with one of said electrode sections of said piezoelectric vibrator by way of line or face contact and a second wiring section spaced and insulated from said first wiring section, wherein said connecting device is formed in a form capable of connecting the other electrode section of said piezoelectric vibrator with said second wiring section.

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9. A substrate for an acoustic detecting device having a top surface, said substrate further comprising:

(a) an acoustic wave transducer coupled with a bulk wave having a

propagation axis crossing said top surface in the substrate;

(b) a wiring for supplying said acoustic wave transducer with electric power, said wiring being printed on a back surface of said substrate;

(c) a connecting device for connecting said acoustic wave transducer with
5 said wiring;

(d) a diffractive acoustic wave mode coupling structure formed in the proximity to said surface for converting acoustic energy of the bulk wave into a wave to be propagated along an axis parallel to said top surface; and

(e) a means for detecting the converted acoustic wave energy corresponding
10 to a position of a perturbation event.